



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



FEB 05 2013

Terry Maddox
Mt Poso Cogeneration Company LLC
PO Box 81256
Bakersfield, CA 93380

Re: Notice of Final Action - Minor Title V Permit Modification
District Facility # S-91
Project # 1110659

Dear Mr. Maddox:

The Air Pollution Control Officer has modified the Title V permit for Mt Poso Cogeneration Company LLC by incorporating Authority to Construct (ATC) S-91-3-12. ATC S-91-3-12 authorizes the use biomass in addition to coal, coke, and tire derived material as fuel for their 49.9 MW Atmospheric Circulating Fluidized Bed Combustor Cogeneration Power Plant S-91-3.

Enclosed is the engineering evaluation with attached modified Title V permit. The application and proposal were sent to US EPA Region IX on March 15, 2011. There were no comments on the project.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Sincerely,

David Warner
Director of Permit Services

DW:rue

Enclosure

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
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San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



FEB 05 2013

Gerardo C. Rios, Chief
Permits Office (AIR-3)
U.S. EPA - Region IX
75 Hawthorne St
San Francisco, CA 94105

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District Facility # S-91
Project # 1110659

Dear Mr. Rios:

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San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-91-3-16

EXPIRATION DATE: 08/31/2016

SECTION: 18 **TOWNSHIP:** 27S **RANGE:** 28E

EQUIPMENT DESCRIPTION:

49.9 MW COAL/PETROLEUM COKE/BIOMASS AND TIRE DERIVED FUEL (TDF) FIRED ATMOSPHERIC CIRCULATING FLUIDIZED BED COMBUSTOR COGENERATION POWER PLANT

PERMIT UNIT REQUIREMENTS

1. Biomass introduced into the combustor shall not contain more than 2% by weight non-biomass material (plastics, metal, painted and preservative-treated wood, roofing material, fiberglass, etc.). [District Rule 4102]
2. At least once per quarter, operator shall collect a representative sample of the biomass material combusted and determine the weight percent of non-biomass material contained in that sample. Prior to collecting the first quarterly sample, operator shall submit a sampling plan to the District's compliance division for approval and shall follow the approved plan for all subsequent sampling, unless a revised plan is submitted and approved. [District Rules 1081 and 4102]
3. Operation shall include Ahlstrom Pyroflow atmospheric fluidized bed combustor incorporating low temperature staged combustion and ammonia injection (NOx control), and pulverized limestone injection (SOx control). [District Rule 2201] Federally Enforceable Through Title V Permit
4. Operation shall include enclosed gravimetric belt weigh feeder discharging to fuel feed chutes and enclosed limestone volumetric feeder with air lock system. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Operation shall include four natural gas fired 62 MMBtu/hr Coen startup burners and two natural gas fired 23 MMBtu/hr Coen duct burners. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Operation shall include two fly ash recycle cyclones, air heater with two fly ash hoppers, economizer and ash handling system. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Operation shall include 1250 HP primary combustion air fan, 500 HP secondary combustion air fan and 150 HP multi-staged centrifugal fluidizing air blower. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Operation shall include 12 compartment fabric collector with 1750 HP induced draft fan, reverse air cleaning mechanism and 100 HP reverse air fan. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Fabric collector shall include a minimum of 134,230 sq. ft. of filtering area, fly ash hopper, with 8 KW electric heater, d.p. transmitter, capacitance type high level detector, vibrator and aeration pad. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fly ash collected at fabric collector shall be discharged only to fly ash handling system. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Ash shall only be removed from combustion system by means authorized to Permit to Operate S-91-4. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

12. Operation shall be equipped with the following indicators: combustion temperature, combustion air system pressure, primary and secondary fan air flow, ammonia injection flow, fuel use rate and limestone use rate. The permittee shall operate and maintain instrumentation to continuously monitor and record levels of combustion temperature, consumption of fuel, ammonia, and limestone in boiler. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
13. Each fabric collector compartment shall be equipped with access door and differential pressure indicator. The differential pressure across each compartment shall be maintained between 2" and 9.5" water column. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Fabric collector inlet shall be equipped with operational pressure indicator and high temperature alarm which activates prior to high temperature failure. The pressure shall not exceed negative 35" water column. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Fabric collector shall be equipped with automatic cleaning mechanism. [District Rule 2201] Federally Enforceable Through Title V Permit
16. All combustor exhaust gas shall pass through fabric collector prior to being emitted to atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Unit shall be operated as a low temperature combustor with a peak temperature range of 1550 to 1750 deg F. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Unit shall be operated as a staged combustion device by introducing a substoichiometric amount of combustion air into primary combustion zone. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Flue gas O₂ content shall be maintained at a level (3%-5%) which shows compliance with all emission limits and which minimizes NO_x emissions. [District Rule 2201] Federally Enforceable Through Title V Permit
20. There shall be no provisions for introduction of air into combustion system or exhaust system downstream of the combustion chamber except for air utilized for cyclone center pipe supports and cooling. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Combustor shall be fired only on natural gas, coal, petroleum coke, biomass, tire derived fuel (TDF) or combinations thereof as allowed for by this permit. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
22. The sum of the combined coal, coke, and tire derived fuel throughput and 1/2 times the throughput of biomass introduced into the combustor shall not exceed 1,400,000 lbs/day and 58,333 lbs/hr (on a dry basis). Solid fuel introduced into the combustor shall contain no more than 4.0% by weight sulfur. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
23. Of the total fuel introduced into the combustor, no more than 154,000 lbs per day (on a dry basis) shall be TDF. [District Rule 2201] Federally Enforceable Through Title V Permit
24. A minimum of 0.035 lbm limestone/lbm of fuel shall be introduced into the combustor. [District Rule 2201] Federally Enforceable Through Title V Permit
25. Limestone shall be introduced into combustor at a rate sufficient to maintain a minimum Ca/S molar ratio of 3. [District Rule 2201] Federally Enforceable Through Title V Permit
26. Ammonia breakthrough shall not result in ground level odors and exhaust stack concentrations, except during periods of start-up/shutdown, shall not exceed 20.0 ppmv based on three hour rolling average. [District Rule 2201] Federally Enforceable Through Title V Permit
27. Emissions rates from boiler exhaust shall not exceed the following: PM₁₀: 190.0 lb/day, VOC: 149.9 lb/day, NO_x (as NO₂): 1406.4 lb/day nor 463,084 lbs/yr, SO_x (as SO₂): 699.4 lb/day nor 209,016 lb/yr, and CO: 1207.2 lb/day nor 371,312 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
28. Emission rate of PM-10 shall not exceed 7.92 lb/hr and 0.012 lb/MMBtu. Particulate Matter (PM) emissions shall not exceed 0.01 gr/dscf @ 12% CO₂. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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29. Emission rate of SO_x (as SO₂) shall not exceed 25.0 lb/hr, based on three hour rolling average. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
30. SO_x emissions (as SO₂) shall not exceed 0.04 lb/MMBtu, based on a three hour rolling average, during any period in which the power output exceeds 40 MW. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
31. Emission rate of oxides of nitrogen as NO₂ shall not exceed 58.60 lb/hr, based on three hour rolling average. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
32. NO_x emissions shall not exceed 0.20 lb/MMBtu at any time, except during startup and shutdown (as defined in Rule 4352), based on a 24 hour averaging period. [District Rule 4352, 5.1] Federally Enforceable Through Title V Permit
33. NO_x emissions shall not exceed 0.092 lb/MMBtu, based on a three hour rolling average, during any period in which the power output exceeds 40 MW. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
34. Emission rate of volatile organic compounds shall not exceed 6.25 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Emission rate of carbon monoxide shall not exceed 50.30 lb/hr based on three hour rolling average. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
36. Except during periods of startup and shutdown (as defined in Rule 4352), when fired on coal, petroleum coke, or TDF the emission rate of carbon monoxide shall not exceed 400 ppmv @ 3% O₂. Except during periods of startup and shutdown (as defined in Rule 4352), on any calendar day when at least 50% by weight biomass is fired the emission rate of carbon monoxide shall not exceed 183 ppmv @ 3% O₂. Compliance with the carbon monoxide emission limit shall be based on a based on a block 24 hour average. [District Rules 2201 and 4352] Federally Enforceable Through Title V Permit
37. The main exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples using approved EPA test methods. [District Rule 1081, 3.0] Federally Enforceable Through Title V Permit
38. Performance testing at maximum operating capacity shall be conducted annually for NO_x, SO_x, CO, PM-10, PM, and VOCs at the maximum operating capacity using following test methods; for NO_x EPA Methods 1-4 and 7 or ARB Method 100; for SO_x EPA Methods 1-4 and 6 or ARB Method 100; for CO EPA Method 1-4 and 10 or ARB Method 100; for PM(10) EPA Method 201A in combination with EPA Method 202; for PM EPA Methods 1-4 and 5; and for VOCs EPA Method 25 or 18. [District Rule 4352, 6.4; District Rule 2520, 9.4.2; PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
39. The District and EPA must be notified 30 days prior to any performance testing and a test plan shall be submitted for District approval 15 days prior to such testing. [District Rule 1081, 7.1 & PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
40. Performance testing shall be witnessed or authorized District personnel and EPA. Test results must be submitted to the District within 60 day of performance testing. [District Rule 1081, 7.2, 7.3 & PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
41. Permittee shall report the following emission exceedences to the District: SO₂, NO_x, and CO hourly emission rates on a three hour rolling average and daily emissions limitations. Excess emissions shall be defined as any consecutive 3-hour period during which the average emissions for CO, SO₂, and NO_x as measured by continuous monitoring system, exceeds the mass or concentration limit set for each pollutant. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
42. At the time of performance testing fuel being burned shall be tested for sulfur, nitrogen, ash content and heating value. [District Rule 2201] Federally Enforceable Through Title V Permit
43. Operator shall operate and maintain in calibration a system which continuously measures and records control system operating parameters; elapsed time of operation; exhaust gas Opacity, NO_x, SO₂, CO, and NH₃ concentrations. [District Rule 2201; District Rule 1080, 4.0; & PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit

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44. The continuous emissions monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix B; 40 CFR 60, Appendix F; and 40 CFR 51, Appendix P, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.5 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
45. Operator shall operate and maintain in calibration a system which continuously measures and records stack gas volumetric flow rates meeting the performance specifications of 40 CFR Part 52, Appendix E. [PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
46. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
47. Records shall be maintained and shall contain: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of any CEMs that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080, 7.3 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
48. Permittee shall submit a CEMs written report for each calendar quarter to the District and to EPA. The report is due on the 30th day following the end of the calendar quarter. [District Rule 1080, 8.0 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
49. Quarterly report shall include: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 2520, 9.6.1; Rule 1080, 8.0; and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
50. Any violation of emission standards, as indicated by the CEM, shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
51. Operator shall notify the District no later than eight hours after the detection of a breakdown of the CEM. The operator shall inform the District of the intent to shut down the CEM at least 24 hours prior to the event. [District Rule 1080, 10.0] Federally Enforceable Through Title V Permit
52. Permittee shall maintain an operating log containing type and quantity of fuel used and higher heating value of such fuels on daily basis. [District Rule 2520, 9.4.2; District Rule 4352, 6.2] Federally Enforceable Through Title V Permit
53. Sulfur content of the each type of fuel shall be measured and recorded at least every calendar quarter using current ASTM Methods or shall be certified by supplier for each shipment. [District Rule 2520, 9.3.2 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
54. The differential pressure across each compartment of the fabric collectors shall be checked and the results recorded quarterly. If the differential pressure across each compartment of the fabric collectors is not between 2" and 9.5" water column, corrective action is required prior to further operation of the equipment. Corrective action means that the cause of the improper pressure differential is corrected before operation of the equipment is resumed. [District Rule 2520, 9.3.2 and 9.4.2] Federally Enforceable Through Title V Permit
55. The pressure at the fabric collector inlet shall be checked and the results recorded quarterly. If the pressure at the fabric collector inlet is greater than negative 35" water column, corrective action is required prior to further operation of the equipment. Corrective action means that the cause of the improper pressure is corrected before operation of the equipment is resumed. [District Rule 2520, 9.3.2 and 9.4.2] Federally Enforceable Through Title V Permit
56. Fabric collection system shall be completely inspected annually while in operation for evidence of particulate matter breakthrough and shall be repaired as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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57. Fabric collector filters shall be completely inspected annually while not in operation for tears, scuffs, abrasives or holes which might interfere with PM collection efficiency and shall be replaced as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
58. Records of fabric collector filter maintenance, inspection, and repairs shall be maintained. The records shall include identification of equipment, date of inspection, corrective action taken, and identification of individual performing inspection. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
59. Permittee shall maintain monthly records of NOx, SOx, and CO to ensure that emissions limits on an annual rolling average are met. [District Rule 2201]

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